



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/785,375

02/23/2004

Jani Ollikainen

915-001.027

6520

4955

7590

04/19/2005

WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER

HO, TAN

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/785,375

Applicant(s)

OLLIKAINEN ET AL.

Examiner

Tan Ho

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-35 is/are allowed.
- 6) ☒ Claim(s) 1-9, 23-25, 30 and 31 is/are rejected.
- 7) ☒ Claim(s) 10-22 and 26-29 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


TAN HO
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: In claim 7, line 3, "the short-circuit element" should be changed to --the short-circuit entity-- if it is the short-circuit entity defined in claim 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 6, 7, 9, 23, 24, 30, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Lehtola (US Patent 6,476,769).

Lehtola discloses, in figure 1, an antenna device for use in a mobile phone comprising a ground element 5, a pair of antenna elements (30,40), each antenna element including a first elongated conductive element, a second elongated conductive portion transversal and in contact with the first elongated conductive element, a feed arrangement (24,50), and a short-circuit element (22,42) coupled between the first elongated conductive element and the ground element.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2821

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtola in view of Phillips et al (US Patent 6,657,595).

The patent to Lehtola, described above, differs from the claimed invention because it does not teach a matching circuit coupled to the feed arrangement. Phillips et al disclose, in figure 1, an antenna use for a mobile telephone having a matching circuit 14 coupled to the feed of an antenna 30. Since one of ordinary skill in the art would have recognized the benefits of providing an impedance matching for the antenna device, it would have been obvious to provide the antenna device of Lehtola with a matching circuit as taught by Phillips et al.

6. Claims 8 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtola in view of Saito (US Patent 6,255,994).

The patent to Lehtola, described above, differs from the claimed invention because it does not teach an inductive load coupled to the short-circuit element. Saito discloses, in figure 4, an antenna use for a mobile telephone having an inductive loads 8 coupled to the short-circuit element 5. Since one of ordinary skill in the art would have recognized the benefits of covering separate frequency bands, it would have been obvious to provide the antenna device of Lehtola with an inductive loads as taught by Saito. Regarding claim 25, the specific location of the antenna device on the ground plane is considered an obvious design choice.

Allowable Subject Matter

Art Unit: 2821

7. Claims 10-22, and 26-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 32-35 allowed.

None of the prior arts shows an antenna device having at least a pair of antenna elements, each antenna element comprising a generally L-shaped radiating element in claims 32 and 35; an antenna device having at least a pair of PIFA antenna elements, for each PIFA metallization is adapted to be removed from a center region of the PIFA such that two current paths can be formed on generally edges of the PIFA and further one of the formed current path is adapted to be removed by a removal of a corresponding metallization on the current path in claims 33 and 34.

9. The patents to Hoashi et al, Yeh, and Sekine et al are cited as of interest showing the antenna similar to that disclosed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Ho whose telephone number is (571) 272-1822. The examiner can normally be reached on M-F (8:00AM - 5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TAN HO
PRIMARY EXAMINER